

## CLAIMS

1. A solid-electrolyte secondary battery, comprising:  
a positive electrode;  
a negative electrode; and  
a solid electrolyte provided between the electrodes;  
the solid electrolyte containing as a matrix polymer a fluorocarbon polymer of 550,000 or more in weight-average molecular weight.
2. The solid-electrolyte secondary battery as set forth in Claim 1, wherein the solid electrolyte contains as a matrix polymer:  
a fluorocarbon polymer of over 300,000 and under 550,000 in weight-average molecular weight; and  
a fluorocarbon polymer of 550,000 or more in weight-average molecular weight.
3. The solid-electrolyte secondary battery as set forth in Claim 2, wherein the matrix polymer contains 30 % or more by weight of the fluorocarbon polymer of 550,000 or more in weight-average molecular weight.
4. The solid-electrolyte secondary battery as set forth in Claim 1, wherein the fluorocarbon polymer is at least either polyvinylidene fluoride or polyvinylidene fluoride/hexafluoropropylene copolymer.
5. The solid-electrolyte secondary battery as set forth in Claim 1, wherein a binder contained in the positive and/or negative electrode is made of a high polymer

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material which is same or similar in molecular structure as or to the matrix polymer of the solid electrolyte.

6. The solid-electrolyte secondary battery as set forth in Claim 1, wherein the negative electrode contains a material into or from which a lithium ion can be inserted or extracted.

7. The solid-electrolyte secondary battery as set forth in Claim 6, wherein the material into or from which a lithium ion can be inserted or extracted material is a carbon material.

8. The solid-electrolyte secondary battery as set forth in Claim 1, wherein the positive electrode contains a composite oxide of lithium and a transition metal.

9. The solid-electrolyte secondary battery as set forth in Claim 1, wherein there is formed the solid-electrolyte layer on at least one of the opposing faces of the positive and negative electrodes, respectively, impregnating into the face a solution in which the solid electrolyte is dissolved and removing the solution from the face.

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